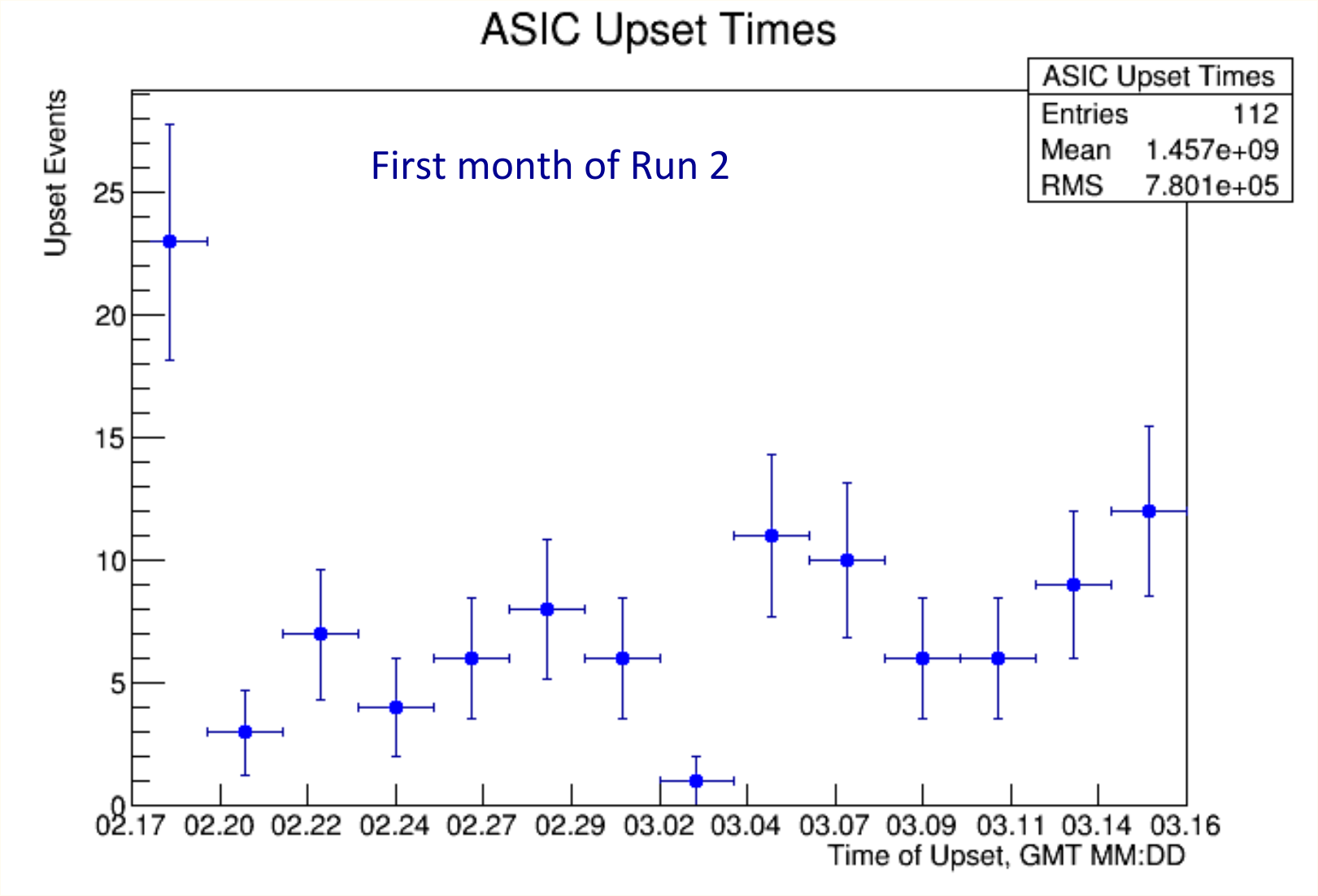
LArIAT Weekly Meeting

Recent DAQtivities

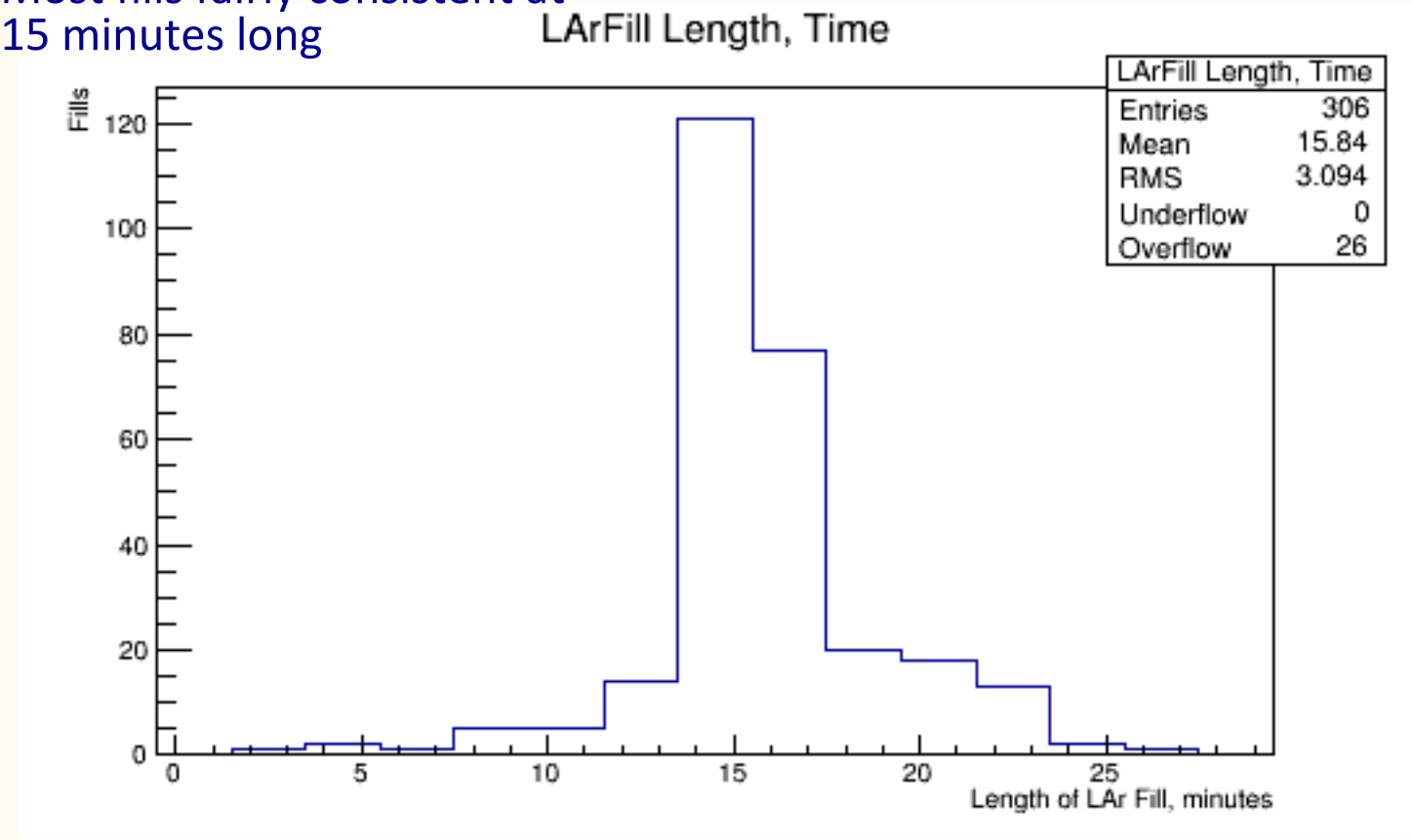
William Badgett
Fermilab
Neutrino Division

ASIC Upsets history Run 2



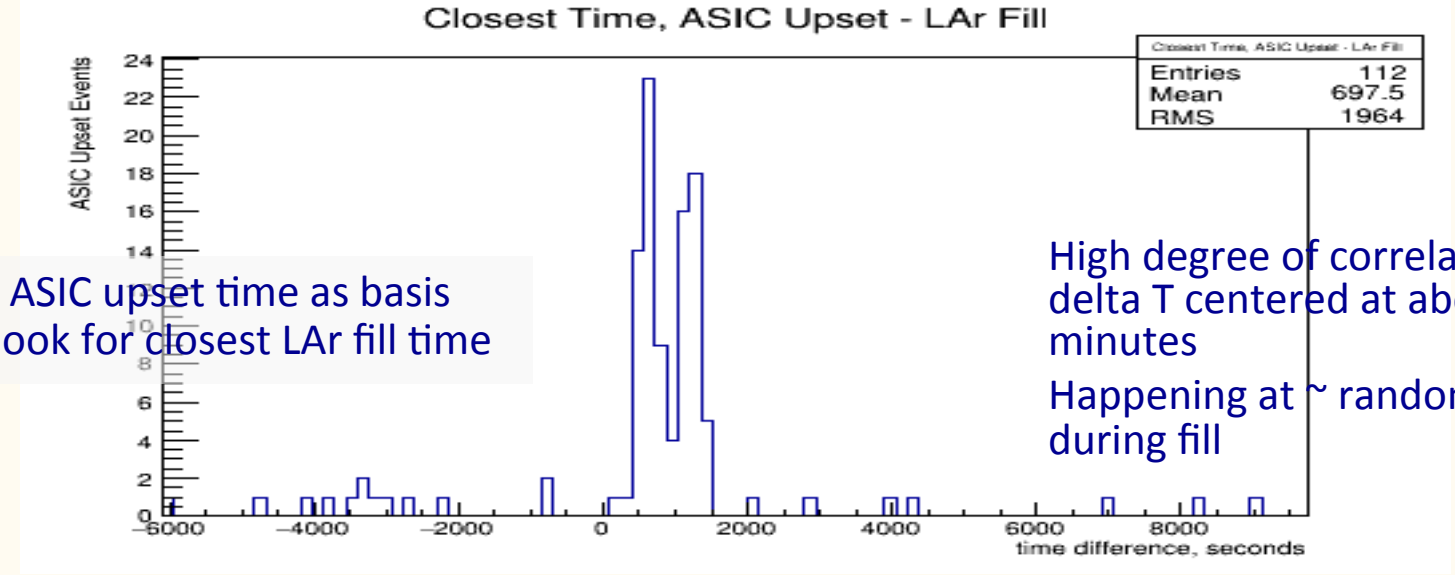
LAr Fill Times

Most fills fairly consistent at
15 minutes long



Outliers were mostly early on

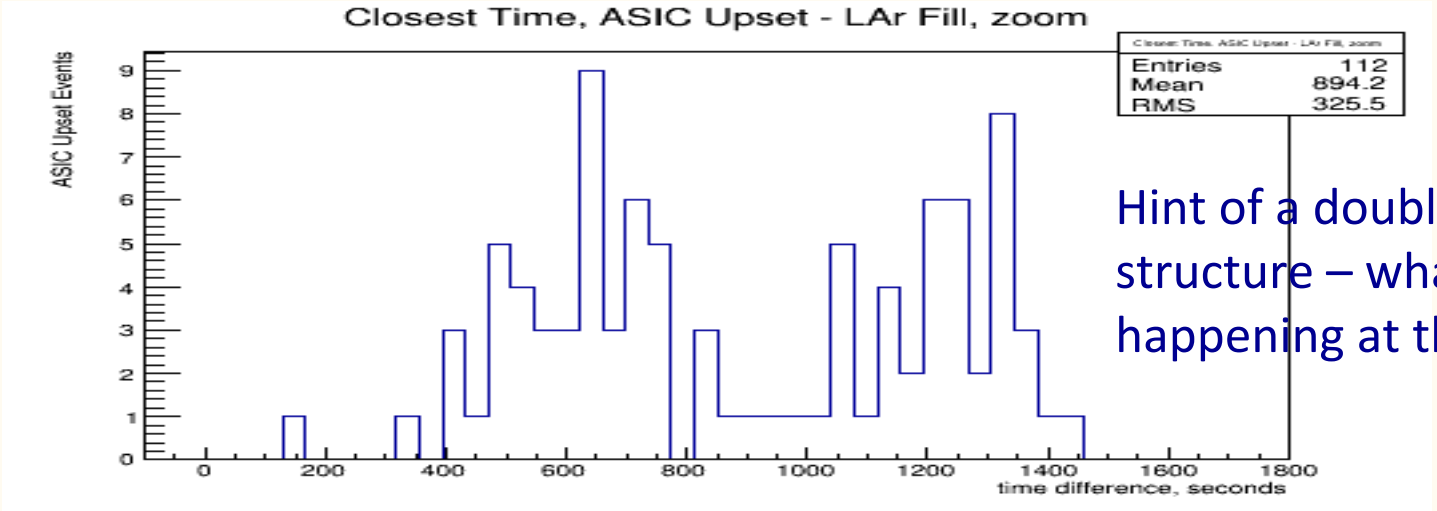
LAr Fills vs. ASIC Upsets



Take ASIC upset time as basis and look for closest LAr fill time

High degree of correlation, with delta T centered at about 15 minutes

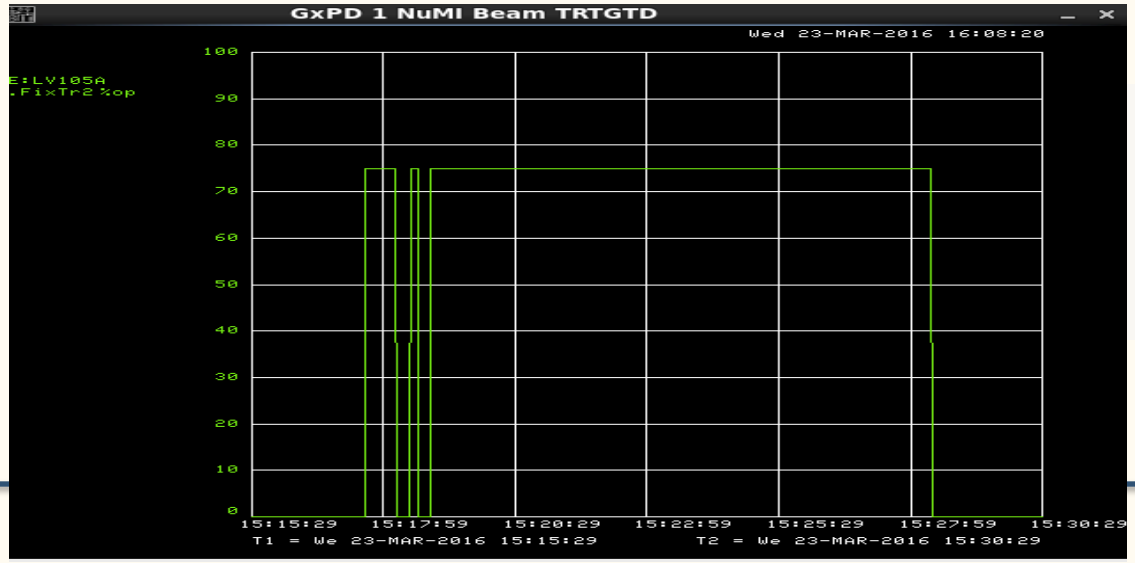
Happening at ~ random times during fill



Hint of a double peaked structure – what is happening at those times?

ASIC Upsets ‘n’ LAr Fills

- ASIC corruption highly correlated with LAr fills
- How do we wish to proceed?
  - More RF noise investigations?
  - Ask Cryo for help?
  - Gnashing of teeth? Hemming and hawing?
  - How much does this hurt us, really?
- We will be adding an ASIC corruption indicator to the database soon so users can be wary of the data



LAr Fill Valve opening and closing at beginning of fill, even after March 16 fix. (Should be OK)

Incomplete Samples Issue

Every few hours, the CAEN digitizers fail to return the full 3072 number of samples, typically ~100 samples fewer. Not clear why.

To protect the data from possible corruption, missing samples are now padded with 0xFFFF values, effect clear in event displays.

(Real ADC values are 12 bit, so this is not a legal value)